OPEN SOURCE SOFTWARE

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A. History

- In the beginning, no protection for computer software. - It was *de facto* open source
  - No copyright until 1980
  - No patenting until mid to late 1990s
  - Could be kept a trade secret, but not effective
  - Richard Stallman in the 1980s - founded GNU and the Free Software Foundation
  - The Open Source Movement

B. The Open Source Definition

- Free redistribution of original product, where the recipient can give it away or require payment; Even if recipient charges, the original distributor cannot get a royalty
- Source code must be made available, in un-obfuscated form
- The recipient must be allowed to make derivative works

B. Open Source definition, cont.

- The author's source code must not be altered and then distributed as the original
- No discrimination against persons or groups
- No discrimination against fields of endeavor (use commercially also]
- Distribution of License - No additional licenses or non-disclosure agreements

B. Open Source Definition, cont.

- The license must not be specific to a product - not part of a particular software distribution - avoiding license traps
- The license must not restrict other software that is distributed with the OSS - Not only with OSS
- The license must be technology neutral - no discrimination against systems

C. Various licenses

- The GPL, or General Public License
  - By far the most popular
  - No warranty - Disclaimer required
  - Any work based on the original OSS program must be licensed as a whole, at no charge to all third parties, and under the terms of the GPL

C. Various licenses, cont.

- The Berkeley Software Distribution license (BSD)
  - Like GPL, except that derivative works can be kept proprietary

D. What OSS is not

- Freeware (no source code)
- Shareware (no source code)
- Public Domain
- For non-commercial use only
- Community Codes

E. Community Codes

- Not the same as OSS, but can be OSS
  - Example: A complicated piece of software, where various parts of the software are prepared by different entities
  - There will be a Holder, acting as sole distributor

F. Arguments against OSS

- What belongs to everyone belongs to no one
- OSS people may only be interested in upgrading for their own purposes
- Some commercial companies may not be interested in working with OSS
- Compatibility problems (forking)

G. Arguments for OSS

- Saving money
- Peer review, for debugging and cyberattacks
- The Government is not interested in profit
- Cross platform compatibility

H. Application to DOE

- We’re giving our labs a lot of leeway - copy of software to Energy Science and Technology Software Center (ESTSC)
- Export control review
- DOE’s dissemination statutes
- Not considered technology transfer by DOE

I. Other considerations

- Commercial firms may attempt to somehow make software proprietary
- Must take care that you don’t contaminate someone’s proprietary software by combining it with OSS
- Problems posed by patents

I. Other considerations, cont.

- Trademarking
- As noted above, OSS can be sold commercially, but since anyone can sell it, it stays cheap.
- The Mitre study - www.disa.mil/pao/opensource.html

J. Handout web sites

- GNU and Free Software Foundation http://www.gnu.org
- Open Source - http://www.opensource.org
- The Open Source Definition http://www.opensource.org/docs/definition.php

J. Handout web sites, cont.

- The GNU General Public License (GPL) http://opensource.org/licenses/gpl-license.php